

Information Structure in Karitiana

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1. Overview of the language

The language is spoken today by a community of approximately 400 speakers, who inhabit their own reservation (Área Indígena Karitiana) located 95 Km to the south of the city of Porto Velho, in the state of Rondônia, Brazil. Karitiana is the last remaining language in the Arikém branch of the Tupian family. The language has been studied in masters' theses by David Landin (1984), Thiago Coutinho-Silva (2008), Luciana Sanchez-Mendes (2009), Andrea Marques (2010), Ivan Rocha (2011) and Ph.D. dissertations by Luciana Storto (1999) and Caleb Everett (2006). Ana Muller has been publishing papers on semantic phenomena in Karitiana since 2006 (Muller, Storto & Coutinho-Silva 2006, Sanchez-Mendes & Muller 2007, Muller & Negrão 2010) and Daniel Everett and David and Rachel Landin have also worked on aspects of its phonology and syntax in the past.

Karitiana is a head-final language, following the usual Tupian pattern in displaying (1) postpositions, (2) possessor-possessed word order in the noun phrase, (3) OV order inside a nominalized verb phrase, and (4) embedded clause-subordinator word order¹:

(1) Y-taka-tar-i yn Porto Velho pip
1-decl-go-fut I to
'I will go to Porto Velho'

(2) Taso ambi
man house
'The man's house'

¹ Declarative mood is marked through the following allomorphs: *na(ka)-* is used when agreement is third person; *ta(ka)-* is used when agreement is first or second person. The augment *ka-* is used when the verb root has first syllable stress. Non-future tense is marked as a suffix which has two allomorphs: *-t* if the verb root ends in a vowel and *-Ø* if it ends in a consonant. Future allomorphy is conditioned by the same criterion as nonfuture tense: *-j* is used when the verb ends in a vowel and *-i* when it ends in a consonant. Note that the orthographic symbol *y* stands for a high central vowel. Nonfinite clauses are represented in square brackets.

- (3) 'Aam Ø-na-aka-t [gijo taka]-pa-t
 mortar 3-decl-cop-nfut corn grind-NMLZR-cop.agr
 'The mortar is a grinder of corn'
- (4) [Ti'y Marcelo 'y tykiri] Ø-na-pa'ira-t João
 food Marcelo eat when 3-decl-anger-nfut João
 'When Marcelo ate the food, João got angry'

Constituent order in Karitiana varies a great deal, but the following complementary distribution is observed: (1) Main clauses are never verb-final (VOS, VSO, SVO or OVS), with SVO and VS being the unmarked orders in declarative clauses; (2) Embedded clauses are always verb-final (SOV or OSV for transitives and SV for intransitives). This complementary distribution in word order relates to the presence of inflection, because subordinate clauses are non-finite and have no person agreement, whereas main clauses are always inflected for absolutive person agreement and tense. This is exemplified and explained in the subsections below in several main clause types (declaratives, assertatives, imperatives and non-declaratives) and in different kinds of subordinate clauses.

1.1. The presence of agreement and tense inflection in main clauses

Declarative sentences (5)-(8) display an absolutive person prefix that agrees with the object of a transitive verb (5-6) or the subject of an intransitive verb (7-8). With a ditransitive verb, as expected in an absolutive pattern of agreement, there is verb agreement with the direct object (the goal), and the indirect object (the theme) is marked with an oblique postposition (*-ty*) as in (9-10):

- (5) Yn a-ta-oky-j an
 I 2-decl-hurt-fut you
 'I will kill you' (SVO)
- (6) An y-ta-oky-j yn
 You 1-decl-kill-fut I
 'You will kill me' (SVO)
- (7) Y-ta-opiso-t yn
 1-decl-listen-nfut I
 'I listened' (VS)

- (8) A-ta-opiso-t an
 2-decl-listen-nfut you
 'You listened' (VS)
- (9) Yn a-taka-hit-Ø an boete-ty
 I 2-decl-give-nfut you necklace-obl
 'I gave a necklace to you'
- (10) Yn Ø-naka-hit-Ø i/taso boete-ty
 I 3-decl-give-nfut he/man necklace-obl
 'I gave a necklace to him/the man'

Third person declarative agreement is null as in (10), (3) and (4), but as shown below, it is marked through the prefix *i-* in imperative and non-declarative sentences, where it co-occurs with a free NP. Imperatives agree with the second person subject if the verb is intransitive, but in a transitive verb agreement in the imperative mood is with the third person object even when that object is a free NP as in (15). Ditransitive imperatives such as (16) agree with the direct object (goal) as they do in other sentential types²:

- (11) A-pyt'y-Ø 'eat (intr.)'
 2s-eat-imp
- (12) A-tar-a 'go (intr.)'
 2s-go-imp
- (13) I-m-pok-a 'dry it (tr.)'
 3-caus-dry-imp
- (14) I-or-a 'catch it (tr.)'
 3-catch-imp
- (15) I-m-'y -Ø osiipo 'Do/take the osiipo (ritual)!'

² Imperative mood morphology is *-a* in consonant-final verb roots and *-Ø* in vowel-final roots. In affirmative imperatives there is a high tone attached to the suffix. Negative imperatives are marked with a different suffix and have low tone.

3-caus-do/take male.initiation.ritual

- (16) y-hir-a 'Give it to me'
1-give-imp

Assertative mood occurs in affirmative answers to polar questions (Landin 1984), is found commonly at the beginning and end of narratives (or sections inside a narrative), and is used to express strong opinions (Storto 2002). Note that third person agreement on the assertative mood is null as in declaratives³:

- (17) Y-pyr-ahy-dn yn 'I drank'
1-assert-drink-nfut I

- (18) A-pyr-ahy-dn an 'You drank'
2-assert-drink-nfut you

- (19) Ø-Pyr-ahy-dn i/taso 'He/the man drank'
3-assert-drink-nfut he/man

- (20) Y-pyr-ahoj-on yn òwā 'The child laughed at me'
1-assert-laugh.at-nfut I child

- (21) A-pyr-ahoj-on an òwā 'The child laughed at you'
2-assert-laugh.at-nfut you child

- (22) Ø-Pyr-ahoj-on i òwā 'The child laughed at her'
3-assert-laugh.at-nfut she child

Because assertative sentences are verb-initial, Caleb Everett (2006) analyzes them as a case of verb-focus constructions, claiming that the verb moves to a pre-core position inside the sentence in such clauses (C. Everett ms) - the same position in which focused NPs occur. In Storto's (1999) analysis there is verb movement to a left-edge

³ There are three allomorphs to the assertative mood prefix: **pyry-** affixes stress-initial verb roots, **pyr-** is attached to vowel-initial roots that do not have initial stress, and **py-** occurs with consonant-initial roots that do not have initial stress. Nonfuture tense in the assertative mood is marked by the suffix by **-Vn** with consonant-final verbs and its allomorph **-n** with vowel-final verbs (and when the preceding vowel is oral, /n/ predictably becomes preoralized as [dn]).

position (C) in all finite clauses (including assertatives and declaratives). C is a complementizer head position in the generative framework adopted by Storto, which is equivalent to a pre-core position in van Valin's Role and Reference grammar adopted by Everett (van Valin 2005, van Valin & Heine, ms), in that both are clause internal left edge positions. According to Storto, there is an additional movement of a focused constituent to the preverbal position (Spec, CP) in declarative sentences - similar to what happens to topics in Germanic V2 languages. In the unmarked declarative SVO sentences the subject moves to a preverbal position, but it is not clear that this is the same position described by Storto for focused NPs because this movement of S is not associated with focus. C. Everett claims that there is a left-edge topic position in Karitiana to account for the unmarked position of the subject in SVO and SV word orders. We strongly disagree with Everett on this point, because the default word order in intransitive sentences in Karitiana is VS. To refute that hypothesis, we will show statistics of constituent order variation in sentences taken from dialogues and a narrative in section 3.1, in which the great majority of intransitive declarative sentences occur in VS word-order in default environments and SV is found when the subject is focused. Furthermore, we will show in 3.2 that a shifted topic position is used in the language at the right edge of sentences meaning "aboutness".

Non-declarative clauses such as (23) and (24) occur when a character in a narrative uses direct speech. They differ from declaratives in that no mood prefix is present and the third person agreement marker is *i-* instead of zero:

(23) Dikisy i-oky-t y-man! SVO
 spider 3-kill-nfut 1-husband
 'A spider killed my husband!'

(24) Y-'it kyry y-'y-j (yn-o)! OV(S)
 1-son liver 1-eat-fut I-emph
 'I will eat 'my son's liver!'

1.2. The absence of inflection in subordinate clauses

Subordinate clauses are non-finite, lacking tense and agreement. When a subordinating head is present, it conveys aspectual meaning (perfective (translated as "when"), imperfective, posterior, etc). For this reason, Storto (1999) analyzed subordinate clauses in the language as aspectual phrases.

1.2.1. Adverbial subordinate clauses

Examples (25) and (26) display the same sentence in OSV and SOV word orders. OSV is translated as colloquial and SOV as archaic because the latter is found more often in mythical narratives and the former is the default subordinate word order:

(25) OSV subordinate clause

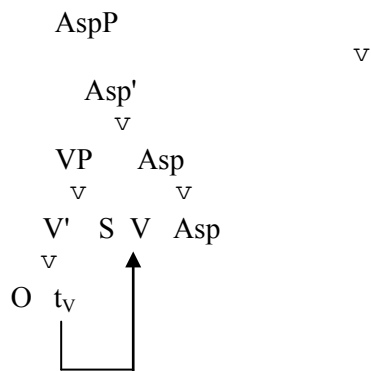
[Boroja taso oky tykiri] Ø-naka-hyryp-Ø õwã
 snake man kill when 3-decl-cry-nfut child
 'When the man killed the snake, the child cried (colloquial)'

(26) SOV subordinate clause

[Taso boroja oky tykiri] Ø-naka-hyryp-Ø õwã
 man snake kill when 3-decl-cry-nfut child
 'When the man killed the snake, the child cried (archaic)'

The phrase structure proposed by Storto to account for SOV and OSV word orders in the examples above is one in which the archaic SOV word order, inherited from Proto-Tupi, is altered to OSV in Karitiana via a historical change in the position of the subject of the verb phrase that projects to the right of V' (as in Figure 1). Additionally, the verb forms a complex head with the aspectual subordinator via head-movement. This is supported empirically by the fact that the verb and all functional heads such as aspect, evidentials and negation constitute a phonological unit in the language - the phonological phrase - creating an environment in which several phonological processes (vowel epenthesis, stress deletion) take place (Storto 1999, Storto & Demolin 2005).

Figure 1. *The structure of OSV subordinate clauses*



Another type of subordinate clause in Karitiana, described by Storto (to appear) as a "complement" clause is exemplified in section 1.2.2.

1.2.2. "Complement" subordinate clauses

"Complement" clauses are oblique arguments of a special class of verbs such as *want, like, think, know*, all of which behave as intransitive verbs with respect to valence change (Storto & Rocha to appear) but are used often with an optional phrasal or clausal object marked by the oblique postposition *-ty*:

- (27) Y-py-pyting-yn yn [him pisyp Inácio opĩ]-ty
 1-assert-want-nfut I game meat cut-obl
 'I want that Inácio cuts the meat'
- (28) Y-py-sondyp-yn yn [Inácio 'ep opĩ]-ty
 1-assert-know-nfut I tree cut-obl
 'I know that Inácio cut the tree'
- (29) Y-py-sondyp-yn yn [Inácio 'ep opĩ pasagngã]-ty
 1-assert-know-nfut I tree cut posterior-obl
 'I Know that Inácio will cut the tree'
- (30) Y-py-so'oot-yn yn [Inácio 'ep opĩ tyka]-ty
 1-assert-see-nfut I tree cut impf.mot.-obl
 'I saw that Inácio was cutting the tree'

The aspectual heads found in "complement" clauses are also found in main clauses and for this reason they cannot be considered subordinating heads properly. Example (31) has both posterior and imperfective aspect auxiliaries composed with the verb to create the meaning "is becoming happy":

- (31) Ø-Pyr-osedn pasagng tyka-dn Pedro
 3-assert-happy posterior impf.mot-nfut
 'Pedro is becoming happy'

1.2.3. Relative clauses

A relative clause in Karitiana may occur as the subject (32), object (33) or oblique argument (34) of a main verb:

- (32) [õwã ti'y 'y] Ø-na-oky-t boroja
 child food eat 3-decl-kill-nfut snake
 'The child who ate the food killed the snake'
- (33) Yn Ø-naka-mĩ-t [õwã ti'y 'y]

I 3-decl-beat-nfut child food eat
 'I have beaten the child who ate the food'

(34) Y-py-so'oot-on yn [õwã him 'y]-ty
 1s-assert-see-nfut 1s child meateat-obl
 'I saw the child who ate the food'

Relatives in Karitiana are head-internal clauses whose heads move to the left-edge of the clause obligatorily. If the verb inside the clause requires an oblique object, as *ti'y-ty* in (35), the head (or pivot) of the relative is fronted and marked as oblique:

(35) Y-py-so'oot-on yn [ti'y-ty õwã pytagngã]-ty
 1s-assert-see-nfut 1s food-obl child rob-obl
 'I saw the food that the child has robbed'

1.3. Discussion

Storto (1999) describes the complementary distribution between main and subordinate clauses and explains it in terms of an obligatory verb movement in finite clauses similar to V2 in Germanic languages, whereas D. Landin (1984) and C. Everett (2006) state that the language is SVO and has no agreement. They posit that an optional repetition of the subject and object is possible post-verbally to account for the co-occurrence of the person prefix and a pronoun seen in (5)-(9). We take the view that, although the system of agreement derives historically from cliticized pronouns, person morphemes on the matrix verb cannot be pronouns synchronically in Karitiana, because free NPs/pronouns clearly co-occur with agreement in all types of main - (5-9), (15), (17-18), (20-21) and (23) - and in embedded clauses this *does not* happen. Besides, the fact that agreement morphology derives historically from pronouns is a widely assumed fact cross-linguistically (Givón 1976). The agreement analysis explains all the data in Karitiana, whereas the pronoun analysis does not explain the optional repetition of pronouns. As we show in section 3.2, pronoun repetition is a possibility in the language, but only subjects may be repeated in a special shifted topic construction. In order for Landin and Everett's hypothesis to go through, object pronouns would have to be repeated as well, but that is unattested.

2. Focus phenomena in main sentences

Karitiana is a language that grammaticalizes focus in that there is a left-edge position inside the clause reserved for wh-phrases, focused noun phrases (whether used as answers to wh-phrases or not), subjects of cleft sentences, or heads (pivots) of head-internal relatives. Besides presenting a syntactic left-edge position for focus, Karitiana also has two different morphemes that prefix the verb when the focused noun phrase is an object - {*a-*} and {*ti-*} - used, respectively, for declarative and non-declarative object

focus constructions (wh-questions, relatives and nominalized clauses used as complements of copular verbs in clefts).

2.1. Focus in wh-environments

Storto (1999, summarized in 2003) has shown that wh-questions and answers in Karitiana obligatorily move the wh-phrase to the left periphery of the sentence. The sentences below are taken from these works but the glosses are reanalyzed according to the discoveries of Storto (2008) and (2010)⁴:

(36) Morā i-'y-j ohy?
wh 3-eat-fut potato
'Who will eat potatoes?'

(37) Taso Ø-naka-'y-j ohy
man 3-decl-eat-fut potato
'The man will eat potatoes'

(38) Mora-mon taso ti-i-'y-t?
wh-cop man OFC-part-eat-abs.cop.agr
'What did the man eat?'

(39) Ohy a-taka-'y-t taso
Potato DOFC-decl-eat-nfut man
'The man ate potatoes'

Examples of a wh-fronted adjunct and argument taken from a dialogue are given below⁵:

(40) Tikat aka a-tar-i an-o yj-akan ano?
When cop 2-go-fut you-emph 1in-village you(topic)
'As for yourself, when is it that you will go to our village?'

⁴ The ergative-absolutive pattern of agreement is not the only phenomenon displaying ergativity in Karitiana. There is also an obligatory clefting of wh-clauses in the nonfuture tense (with the interrogative copula *mon*) when the wh-phrase is an intransitive subject or object. The structure of such cleft wh-questions (42), in which the object is wh-fronted and the verb gets Object Focus Construction (OFC), participial and absolutive copula agreement morphology will be discussed in more detail below.

⁵ The repetition of the subject as a topic in example (40) will be discussed in section 3.2.

- (41) Dibm y-taka-tar-i yn
tomorrow 1-decl-go-fut I
'I will go tomorrow'
- (42) Mora-mon hoop an ti-i-m-' a-t?
wh-cop there you OFC-part-caus-do/make-abs.cop.agr
'What is it that you doing there?'
- (43) Ga y-hot yn ti-i-m-' a-t
garden 1-to I OFC-part-caus-do/make-abs.cop.agr
'It is a garden I am making'
- (44) Morāi-aka-j hoop i-hot-Ø?
wh 3-cop-fut there part-go.pl-abs.cop.agr
'Who is it that will go there?'
- (45) Yn Ø-na-aka-j hoop i-tat-Ø
I 3-decl-cop-fut there part-go-abs.cop.agr
'It is I that will go there'

These examples show that the possible ways to answer a wh-question are with monoclausal sentences such as SVO declaratives (as in 37), OVS declarative object focus sentences (as in 39), and OVS non-declarative object-focus sentences (as in 24), as well as with biclausal sentences such as cleft (as in 42) or copular sentences (as in 45). The properties of clefts and copular sentences in Karitiana will be discussed in more detail in section 4.1.

Since wh-phrases in questions and answers are sources of new information in the discourse, we consider that Karitiana has a left-edge focus position to which focused phrases must move in wh-environments. Some other text examples of this left edge focus position outside of wh-environments are given in the sections below. Henceforth, examples of focus and topic phenomena taken from narratives will be presented in context, along with the previous and following sentences, to enable a discussion of information structure.

2.2. Declarative and non-declarative object focus constructions

Examples (46)-(52) are taken from an excerpt of the *Osipo* narrative, which describe the first tame game that usually approaches hunters (represented by a first person plural inclusive pronoun *yjxa*) two months after they have performed the male initiation ritual. In this excerpt, each animal that is affected (either stunned or made tame) by the magic of the ritual is introduced as new information in an OVS sentence marked by declarative object

focus morphology (the verb prefix *a-*). It is possible to know that the object is fronted to a left edge position inside the clause because there is no pause between the object and the verb in any of these sentences⁶:

(46) A-mbygng, [sypomp oti-dna-t yj-aka-t],
 that-after two moon-advzr-obl 1in-cop-obl

Ø-taka-heredna-'oot-Ø him sikirip pitat
 3-decl-approach-iterat-nfut game tame very

'After that, when two months have passed, really tame game starts to approach for the first time'

(47) De, him Ø-a-ta-ompong~ompong-Ø osiip
 deer game 3-DOFC-decl-stun-redupl
 'Deer, game, osiip stuns and stuns'

(48) Him Ø-a-ta-ompong-Ø osiip
 game 3-DOFC-decl-stun-nfut
 'Game, osiip stuns'

(49) Sojxa Ø-a-ta-ompong-Ø osiip
 Wild.boar 3-DOFC-decl-stun-nfut
 'Wild boar, osiip stuns'

(50) Him Ø-a-m-sikini padni osiip
 game 3-DOFC-caus-remember neg
 'Game, osiip makes forgetful'

(51) Him Ø-a-ta-m-pa'ira-t osiip
 game 3-DOFC-caus-angry-nfut

⁶ In (47) there is a pause between the two objects mentioned (de, him), but not between the second object and the verb. The verb is itself reduplicated in this case to indicate a plurality of events (Storto, to appear-a), suggesting that the object is to be interpreted as plural (the conjoined phrase *de, him*, meaning 'deer and game').

'Game, osiip makes upset'

- (52) A-tykiri, yj-ta-so'oot hārā-∅ yjxa him herednat yjxa
that-when 1in-decl-see well-nfut we game approaching us(topic)
'Then, as for our people, the approaching game likes us'

The object focus morpheme *a-* exemplified above is restricted to the default mood type in Karitiana, that is, declaratives⁷. When object focus is used in a non-declarative sentence, be it an interrogative, negative, or embedded clause (including relatives and the clausal complement of a copula in a cleft sentence), another morpheme must prefix the verb: *-ti*. Landin (1984) was the first to point out that content questions in which the fronted phrase is an object must be marked obligatorily in Karitiana by the verb prefix *ti-* (Landin 1984). Storto (1999, 2003, 2008) has shown that answers to these questions may be clefts (in which the copula has a clausal complement headed by a nominalized verb prefixed by *ti-*) or declarative object focus sentences marked by *a-*. In both cases the object of the verb prefixed by the focus morpheme must occupy the preverbal sentence-initial position. In the *Osiipo* narrative, there is a single example of a non-declarative object focus construction used as a cleft sentence (54) that focalizes *a* 'that', the object of the verb *oky* 'to kill':

- (53) Teteet kej yj-pan-ty yjxa a-'oot-∅
run, get 1in-weapons-obl we that-iterat-abs.cop.agr

∅-na-aka-t pikom
3-decl-cop-nfut monkey

'We start to run and get our weapons and there are monkeys already'

- (54) A ∅-na-aka-t yjxa ti-i-oky-t
that 3-decl-cop-nfut we OFC-part-kill-abs.cop.agr
'That is what we kill'

- (55) Piharap i-ki padni him
shortage 3-cop.pl neg game
'There is no shortage of game'

⁷ Its use is also restricted to sentences with third person subjects.

Here the storyteller uses a cleft sentence to emphasize that the game killed by men who have passed through the male initiation procedures is not just any game, but game that became tame because of the magic that results from the *Osiiip* ritual. In this respect, this kind of focus can be considered contrastive focus, because it is comparing “that” with a contextually presupposed “other” type of game.

2.3. Subject focus

Storto (2010) discusses various aspects related to the syntax and semantics of copula sentences in Karitiana, including that subject wh-sentences may be answered either by SV declaratives or by declarative copular sentences. The latter must display the order SVComplement, where the complement is a nominalized small clause headed by an intransitive verb, and the subject of the copula is the original object of the verb heading the clausal complement that has been moved to sentence-initial position.

When the fronted constituent is a subject, there is no morphology marked on the verbs in wh-questions or answers as seen in section 2, but moving the phrase that conveys the new information to a left periphery position inside the clause is still obligatory.

Passives are often used when prohibitions or rules are mentioned in narratives. Sometimes storytellers use negated sentences (in non-declarative mood) side by side with sentences inflected in the deontic mood, as in (56). The latter are the standard way to convey a rule or prohibition, but perhaps negated passives are preferred because they are perceived as less intimidating to the hearer.

- (56) Pyn-pyt'y saramyn-t, pyn-pyso'y i-a-m-'a padni 'a
 deon-food hiding-nfut deon-masturbate 3-pass-do neg that
 'One must not eat in hiding, one must not masturbate; that is not to be done'

The excerpt corresponding to sentences (57) to (62) exemplifies the use of subject focus in a non-declarative passive sentence (60)⁸.

- (57) [*Tres dias* yj-aka-t] yjxa Ø-naka-'y-t sojsara
 three days 1in-cop-obl we 3-decl-eat-nfut spicy.broth
 'After three days, we eat spicy broth'

- (58) Sojsara, ʔjom hopo, ʔjom pyka, ʔjom porojo
 spicy.broth, corn seeds corn cob.smoked corn cob.roasted

(Ø-na-aka-t) yjxa ti-i-'y-t

⁸ Negative sentences in Karitiana may occur with an erased negation word, as is the case here (compare with 61). It is possible to identify the sentence as negative in the absence of the negation word because in the negative form there are no mood or nonfuture tense morphemes.

3-decl-cop-nfut we OFC-part-eat-abs.cop.agr

'Spicy broth, roasted corn seeds, corn cobs roasted with the leaves on, corn roasted in a cob is what we eat'

(59) I-a-'y (padni) ese 'Water isn't to be drunk'
3-pass-drink (neg) water

(60) Kytop i-a-'y-t 'Chicha is to be drunk'
chicha 3-pass-drink-nfut

(61) I-a-'y padni ese 'Water is not to be drunk'
3-pass-drink neg water

(62) Yj-'iti hadna tyym 'According to our fathers' teachings'
1in-father word/teaching according.to

In this context, the focused phrase *kytop* in (60) is undoubtedly presented as new information, and as such it is placed in a preverbal, sentence-initial position. When consultants were asked whether the subject could be postverbal in this sentence, the answer was no, whereas, in environments in which focus does not play a role, VS is the default word order for a passive (Rocha 2011).

Example (58) is a case of focus on the subject of a cleft sentence similar to the ones seen in section 2.1, this time in a non wh-environment.

2.4. Focused Postpositional Phrases

Sentences (64) and (66) exemplify focused PPs:

(63) A-tykiri yjxa Ø-na-oky-tbypan pita pip tyym him
there-when we 3-decl-kill-nfut weapon real in then game
'Then, we killed game with bows and arrows'

(64) Opok bypan pip i-a-oky padni keerep him
whiteman weapon in 3-pass-kill neg in.the.old.days game
'One did not kill game with the whiteman's weapons in the old days'

(65) Bokore Ø-na-oky-t keerep him

big.arrows 3-decl-kill-nfut in.the.old.days game
 'Big arrows killed game in the old days'

(66) Napisȳ pip i-m-kikī popi-t
 arrows.with.hooks in 3-caus-cry die.pl-obl

Ø-na-m-'a-t keerep him
 3-habit-caus-do-nfut in.the.old.days game
 'Arrows with hooks made game die crying in the old days'

(67) Ø-Naka-'a ta'ã-t y-'it keerep
 3-decl-say dir.evid-nfut 1-father in.the.old.days
 'My father told me in the old days'

3. Topic phenomena in main sentences

3.1. Discourse topic

C. Everett (ms) claimed that Karitiana has a left periphery discourse topic position to which subjects move in default declarative clauses, which he assumes, have subject-initial constituent orders - SVO and SV. We will show that this sentence-initial topic position does not exist in the language, because although the default word order of transitive sentences is SVO, it is VS for intransitives. Considerable word order variation can be found in dialogues and in narratives. Below we report on 66 sentences in dialogues (45 complete) and 296 sentences in the ritual narrative *Osipo* (195 complete) which have been analyzed with respect to constituency order. Out of the 66 sentences found in dialogues, 19 were complete (that is, minimally constituted by an O and a V) transitive sentences, occurring in the following orders:

SVO: 9 declarative, 2 copular
 OSV: 5 OFC (2 wh- and 2 answers to wh-)
 OV: 1 OFC (wh-) and 2 non-OFC (nmzd. VPs)

The non-OFC declarative sentence with OSV order has an object quantified by 'only', and we know that noun phrases quantified by 'only' are fronted to a different left-periphery position than focused phrases in the language.

Out of 66 sentences found in dialogues, 26 were complete intransitive sentences:

VS: 6 adjunct-wh
 7 polar questions
 4 answers to adjunct-wh, preceded by adjunct
 3 1 default, 2 followed by adjunct PP

- 3 negative
- SV: 1 repetition by hearer of speaker's VS sentence
1 answer to subject-wh (that is, focus in S)
- SV Obl: 1 SV followed by 'horo', a tag question marking perhaps S focus

In the narrative analyzed there were a total of 195 complete sentences, distributed as follows: 92 complete transitive sentences (O and V at least):

- SVO 56 most unmarked,
15 copula, 1 neg. imperative, 1 affirmative imperative, 1 negative
- VO 16 2 imperative, 14 habitual
- OSV 2 1 object quantified by 'only', 1 declarative (parallelism)
- OVS 9 8 declarative OFC, 1 habitual with an ideophone as O
- OV 2 O followed by pitat 'really'
- VOS 2 always preceded by an adjunct
- VSO 5 often preceded by an adjunct, or the subject has a different referent than the subject of the previous sentence; 1 assertative

The narrative had a total of 103 intransitive sentences:

- VS 81 unmarked, 12 negative passives
- SV 22 2 passives, 1 imperative, 1 emphatic subject,
2 subject with 'only', 5 followed by a PP or Adverb

From the facts reported above, we conclude that SVO and VS are the default word orders in Karitiana.

3.2. Topichood as “aboutness”

There is a special kind of topic meaning conveyed in Karitiana by a repetition of the subject at the end of a sentence. This process never affects objects, and can be said to carry a special notion of topichood, that has been described in the literature as conveying the meaning of “aboutness” (Erteschik-Shir 2007: 19). The repetition of the subject often occurs when the subject is not the topic of the previous utterance. This seems to be a case of “shifted topic” or “switch topic”, as described in the literature for Catalan (Vallduvi 1992). The subject may be pronominal or not, and it may be repeated more than once if a constituent follows a repetition.

(68) [Jonso-t yj-amy tykiri], yjxa Ø-naka-'obm- Ø gop
 Woman-obl we-receive when we 3-decl-pierce-nfut wasp
 'When we do receive a woman, we pierce the wasp's nest'

(69) Yn i-'obm pitadni yn gop
 I 3-pierce really-neg I(topic) wasp
 'As for myself, I did not pierce wasps' nests a lot'

(70) Ø-Pyry-kii-dn taso gopo 'obm-on tyym,
 3-assert-cop.pl-nfut man wasppierce-advzr then

Dez gopo 'obm-on-o, *cinco* gopo 'obm-on-o...
 ten wasppierce-advzr-emph five wasp pierce-advzr-emph
 'There are real wasp piercers, ten times wasp piercers, five times wasp piercers...'

(71) [*quatro* myry'in] yn Ø-naka-'obm- Ø yn gop
 four only I 3-decl-pierce-nfut I(topic) wasp
 'As for myself, only four (times) have I pierced wasps'

The excerpt in sentences (68)-(71) is a summary description of the ritual in which the story teller explains the goals of the male initiation ritual, in which a young man has to invade ("pierce") a wasp's nest when he is ready to marry ("receive a woman"). He has to repeat the ritual many times until he becomes ready to marry, as sentences (70) and (71) describe. In (68), the subject of the sentence is the first person inclusive pronoun *yjxa*, "we" (this pronoun is obligatorily cliticized to the verb as *yj-* in the adverbial subordinate clause), and in (69), when the subject is repeated, it is a first person pronoun *yn* "I". The following sentence has a third person subject (*taso gopo' obmomon*), and sentence (71), with a repeated subject, has a first person pronoun in subject position. Note that the repeated pronouns in (69) and (71) have already been introduced in the sentence as subjects. The meaning of repeating the subject is to emphasize the information that the sentence is about, that is, the topic of the sentence. This topic, however, is not linked to a previous topic, that is, it is not in a topic-chaining configuration, but in a focus-chaining structure instead. This type of topic is what Vallduvi describes as a "Link" in Catalan, that is, a topic that is part of the presupposition or ground of the sentence but is not a topic of the previous sentence.

In the following example, the notion of "shifted topic" is not present, because the repeated first person subject in (75) is the subject of the previous full sentence (73). Sentences (73) and (75) are separated, however, by the focused constituent (74) *pikom myry'int*, which

occurred as a phonologically independent utterance and could be considered an interruption in the first person topic chaining from (73) to (75). Nonetheless, the topic meaning of “aboutness” is clearly present in the subject repetition construction in (75):

(72) [Yn-ty y-'iti hadna tyym]yn Ø-naka-m-'a ta'ã-t⁹ osiip
 I-obl 1-father word at I 3-decl-caus-do dir.evid-nfut
 ‘(With) my father’s word (directed) to me I did the osiip’

(73) A-tykiri, yn Ø-na-oky pymbyra-t kinda [ka y-'a tykat tyym]
 there-when I 3-decl-kill a.little-nfut thing this I-do impf at
 ‘Because of this I kill a little bit of game until today’

(74) Pikom myry'in
 Monkey only
 ‘Only monkey’

(75) Yn ipopi padni him ondyt yn
 I 3-kill.pl neg game big I(topic)
 ‘As for myself, I do not kill big game’

This hypothesis still has to be verified, but it seems to us that whenever subject repetition occurs there is either a shifted topic being repeated or an intervening focused element between the repeated subject and the subject of the preceding sentence.

Sentences (76)-(79) exemplify another case of shifted topic in (78), where a first person subject is repeated following a sentence in which the subject was the third person *y' it* ‘my father’:

(76) “An i-hot oky a-sooj [osiip an Ø-na-m-'y-ki tykiri]”
 You 3-go kill 2-wife you 3-hab-caus-take-neg if
 ‘You will not kill for your wife if you do not take the osiip’

(77) Ø-Naka-'a ta'ã-t yn-ty y-'it
 3-decl-say dir.evid-nfut I-obl 1-father

⁹ The marker of direct evidentiality, used when the speaker has witnessed the event, is the auxiliary *ta'ã*. There is another auxiliary - *saryt* - making indirect evidentiality, and it often occurs in mythological narratives and dialogues.

'My father sang [while I pierced the wasp]'

(84) Hyryj hyryj hyryj Ø-naka-'a ta'ã-t y-'it [gopo-'obm tyso'-oota]
sing sing sing 3-decl-do dir.evid-nfut 1-father wasp pierce impf-iterat
'Sing, sing, sing, my father did while I pierced the wasps'

(85) A-tykiri, yn Ø-naka-'obm yn gop miem yn
that-when I 3-decl-pierce I(topic) wasp I(topic)
'Then, as for myself, I pierced the nest of gop miem wasps'

Note that (81), (82) and (85) are transitive SVO sentences. In (85), the constituent order is SVOS and subject repetition is sentence-final, but in (82) the order is SVSO, with a postverbal repetition of the subject (given that verb plus the evidential auxiliary form a complex head in the language). In (85), the subject is repeated twice, post-verbally and sentence-finally in an SVSOS pattern. The occurrence of two sentences with the same subject repeated in a row in (81) and (82) shows that the meaning of subject repetition does not require that the repeated element be a shifted topic and it may be used to falsify the hypothesis that the repeated subject must be either a shifted topic or separated from the previous subject by a focused constituent. However, the structural parallelism between sentences (81) and (82) could be viewed as a restatement of the same sentence (that is, 'to take the Osiip ritual' would be the same as 'to pierce the wasp's nest') instead of two independent sentences. If that is correct, it is not clear that the sentences in question are counterexamples to the descriptive hypothesis that a repeated subject has to be a shifted topic. In the excerpt (86)-(88), sentence (87) is a typical VS intransitive, and the subject is repeated after an adjunct, the numeral 'five' *yjpyt*, that has the structure of a PP, literally 'in our hand'¹⁰:

(86) "Popo-ki pitat an a", Ø-naka-'a ta'ã-t yn-ty y-'it
die-neg really you there 3-decl-say dir.evid-nfut I-obl 1-father
'"You are not dead, see?" My father told me'

(87) A-tykiri, y-taka-kat yn yj-py-t yn
there-when 1decl-sleep I 1in-hand-obl I(topic)
'As for myself, I slept five days then'

¹⁰ The main verb in (88) means "the first thing one eats to heal" and it has a very specific use inside a ritual, meaning that the first food one eats after performing the ritual has medicinal powers.

(88) [Yj-py-t y-kat] y-ta-ohyjym oky-t yn iij
 1in-hand-obl I-sleep 1-decl-first.healing kill-nfut I bird
 'After five days the first thing I caught to heal myself was a bird'

Examples (89)-(91) are important because subject repetition in (90) does not involve a pronoun, but the free noun phrase '*orom* 'spider monkey'. The verb 'y 'to eat' is passivized in this sentence, and the subject of the passive is repeated postverbally (after the complex head formed by the verb and the aspectual auxiliary). The repeated subject is a shifted topic in this case as well:

(89) Ma-song, [dez dias yj-aka-t], [yj-py-ota-tyta-p
 that-through ten days we-cop-obl 1in-hand-other-with-loc

yj-kat tykiri], Ø-na-a-'y-t him ondyt
 we-sleep when 3-decl-pass-take-nfut game big
 'Then, after ten days, after sleeping ten days, big game was taken'

(90) Ø-Na-a-'y-t sojxa, pikomo,
 3-decl-pass-eat-nfut wild.boar monkey

'ōrom i-a-'y andyk-<y> 'ōrom
 spider.monkey 3-pass-eat ref.asp.-neg spider.monkey(topic)
 'Wild boar, monkey, were eaten. As for spider monkeys, they were not to be eaten'

(91) Yj-myhin pi-py-k yj-kat
 1in-one foot-hand-complete 1in-sleep

Ø-na-a-'y-t 'ōrom
 3-decl-pass-eat-nfut spider.monkey
 'After sleeping twenty days, one ate spider monkey'

Note that sentence (90) is translated as a negation, but the negative morpheme *padni* is absent. It is possible to know that the morpheme was present and has been erased because the epenthetic vowel <y>, inserted after the aspectual auxiliary *andyk* could only be there in the environment of *padni*. This phenomenon is very common in Karitiana, as described in a

footnote in by Storto 1999 (page 104, footnote 28). It is assumed, therefore, that *padni* is part of the sentence, forming a complex head with the verb and the aspectual auxiliary in the following order (*ia'y andyky padni*), but has been erased. This erasure does not affect the interpretation of the negative sentence, because affirmative sentences (except direct speech quotations) must have a mood prefix in the language. What is important to us in this example is to show that the word order in sentence (90) is SVS.

The next case to be discussed is (92)-(94), in which an OVS focus construction (92) precedes the sentence in which subject repetition takes place (93). The verb *so'oot haraj* 'to like' in (93) is intransitive, occurring here with a pronominal subject and an oblique object *him heredna* 'approaching game' in VSOblS order¹¹.

(92) Him a-ta-m-pa'ira-t osiip
 game DOFC-decl-caus-angry-nfut
 'Game, osiip makes upset'

(93) Atykiri yj-ta-so'oot harāj-Ø yjxa him herednat yjxa
 there-when 1-decl-ver bem-nfut we game approaching we(topic)
 'Then, as for our people, we like that the game approaches us'

(94) Yj-ta-pypy-dn [him oky]-p yj-taka-pon harāj-Ø yjxa
 1in-decl-know-nfut game kill-inf 1in-decl-shoot well-nfut we
 'We know how to kill game, we shoot well'

Example (96) from excerpt (95)-(97) is another case of subject repetition meaning "aboutness" in which there is topic shift:

(95) Yj-py ota-tyta-p Ø-na-popi-t pikom y-'it
 1in-hand other-with-loc 3-decl-kill-nfut monkey 1-father
 'Ten monkeys, my father killed'

(96) Mj̄jym-p yn Ø-na-popi ta'ā-t yn
 three-obl I 3-decl-kill.pl dir.evid-nfut I(topic)
 'As for myself, I killed only three'

(97) Ø-Naka-'a ta'ā-t kahyt

¹¹ See Storto & Rocha (to appear) for evidence that this verb (and others with experiencer subjects) is intransitive in Karitiana.

3-decl-do dir.evid-nfut like.that
 'It was like that'

Example (99) is a transitive sentence with two instances of subject repetition resulting in an SVSOS word order in which the meaning of a shifted topic is present:

(98) A-tykiri Ø-naka-'a-t osiip kahyt
 That-when 3-decl-do-nfut like.that
 'Then, this is what the osiip was like'

(99) Otadnamyn-t yn Ø-naka-m-'y-t yn gop yn
 Four-obl I 3-decl-caus-take-nfut I(topic) wasp I(topic)
 'As for myself, I have taken the wasps FOUR TIMES'

(100) Gop sōwō-rā, gop miemo gop miemo sypom-p,
 wasp red-advzr wasp wasp two-obl

gop sowo-rā sypom-p tyym
 waspred-advzr two-obl as.well

'Red wasps, gop miemo, gop miemo twice, red wasps twice too'

Finally, in example (102) topic shift does not occur, because the subject is the same in (101) and (102). Nonetheless, sentence (102) starts with a focused PP, confirming our generalization that subject repetition seems to occur either when the repeated topic is shifted or when there is a focused element intervening between the topics of two consecutive sentences:

(101) Pongpan pip yn i-oky him keerep
 firearm in I 3-kill game in.the.old.days
 'I didn't use to kill with the whitemen's weapons in the old days'

(102) Bypan pita pip yn Ø-na-oky-t yn him yn keerep
 weapon real in I 3-decl-kill-nfut I(topic) game I(topic) in.the.old.days
 'As for myself, I used to kill WITH ARROWS in the old days'

(103) Paj syk i-sok

shoot 3-through
'Shoot' at them

(104) A-mbyk tyym yn Ø-naka'obm okoot ta'ã-t
there-after then I 3-decl-pierce iterat.asp dir.evid-nfut
'After that, I pierced again'

4. The syntax and information structure of subordination in Karitiana

4.1. The syntax of subordination

In this section we deal with the syntax of subordination in the language in order to be able to discuss information structure in such environments. Storto (to appear) describes three types of embedded clauses in Karitiana, showing that they have the following properties:

(I) Adverbial subordinate clauses are adjunct modifiers of the matrix clause, may occur in SOV or OSV word orders without any special use of morphology on the verb or the NPs, display subordinators that have aspectual semantics and have verb-subordinator order without exception¹²:

__(105) [São Paulo pip y-otam tykiri] Ø-naka-pop-Ø Maria
São Paulo in I-arrive when 3-decl-die-nfut
'When I arrived in São Paulo, Maria died'

__(106) [São Paulo pip y-otam kit] Ø-naka-pop-Ø Maria
São Paulo in I-arrive before 3-decl-die-nfut
'Before I arrived in São Paulo, Maria died'

__(107) [São Paulo pip y-otam byyk] Ø-naka-pop-Ø Maria
São Paulo in I-arrive after 3-decl-die-nfut
'After I arrived in São Paulo, Maria died'

Another crucial aspect of adverbial subordinate clauses that has already been mentioned in section 1.2.1 is that their constituent order may be either OSV or SOV when non-

¹² Storto (1999) has shown that adjuncts such as adverbs and PPs preferentially occur in preverbal position in declarative sentences. Adjunct clauses follow that pattern. Their distribution, however, is not as free as that of adverbs and PPs. In an SVO matrix sentence, for instance, adverbial clauses cannot occur between V and O, whereas adverbs and PPs can.

pronominal subjects are involved. The former is the usual order in colloquial sentences, SOV being used in a more formal style found in myths and other types of traditional narratives (Storto 1999). We consider that the variation between the two word orders does not have to be explained syntactically because it is motivated by stylistic factors:

(108) OSV subordinate clauses:

[Boroja taso oky tykiri] Ø-naka-hyryp-Ø òwā
 snake man kill when 3-decl-cry-nfut child
 'When the man killed the snake, the child cried (colloquial)'

(109) SOV subordinate clauses:

[Taso boroja oky tykiri] Ø-naka-hyryp-Ø òwā
 man snake kill when 3-decl-cry-nfut child
 'When the man killed the snake, the child cried (archaic)'

(II) Relative clauses are SOV or OSV, do not display a subordinator, have the relativized argument (the so called head or pivot of the relative) in clause-initial position, and when they are OSV, there is an obligatory verb prefix on the verb (the prefix that marks non-declarative object focus construction elsewhere in the language). Storto (1999) analyses them as head-internal relatives:

(110) Relatives in subject position of the matrix:

[jonso òwā mī] Ø-na-aka-t i-hyryp-Ø
 woman child beat 3-decl-cop-nfut part-cry-abs.cop.agr
 'The woman who beat the child cried'

(111) [òwā jonso ti-mī] Ø-na-aka-t i-egngy-t

child woman OFC-beat 3-decl-cop-nfut part-vomit-abs.cop.agr
 'The child whom the woman beat vomited'

(112) Relatives in direct object position of the matrix:

Yn Ø-naka-mī-t [òwā ti'y 'y]
 I 3-decl-beat-nfut child food eat
 'I beat the child who ate the food'

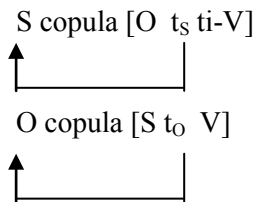
(113) Relatives in oblique object position of the matrix:

(119) Declarative OFC: answer to wh-question

Pikom a-ta-oky-t taso
 monkey DOFC-decl-kill-nfut man
 'The man killed MONKEYS'

In clefts the complement of the copular verb is a non-finite clause that is obligatorily nominalized (by the participial prefix *i-* as in (118) or by the instrumental nominalizer *-pa* as in (3)). Therefore, clefts are biclausal sentences in which the subject of the copular verb originates inside the clausal complement either as a subject or as an object of the subordinate verb. Therefore, the noun phrase that occurs before the copular verb in the cleft sentences schematized below moves out of the subordinate clause leaving behind an [OV] or [SV] nominalized clause. We know for sure that there is movement out of the subordinate clause because the *OFC* prefix *ti-* is obligatory when the object is fronted as in (118):

Figure 2. *The structure of cleft sentences*



It seems reasonable to assume that the arguments in the clausal complements of clefts move to a focus position because cleft sentences have focused subjects cross-linguistically. Besides, we have seen that the OFC morpheme *ti-* is required in a cleft whose subject started out as the object of its clausal complement. Finally, since clefts can be used as answers to wh-questions, we have to assume that the subject position in a cleft is focused. Copular sentences may have the same structure as clefts because they can be used as answers to wh-questions (45) and they also display nominalization of their clausal complement, as well as absolute copular agreement. The difference between clefts and copular sentences is that the clausal complement of a copular verb in the latter is a small clause (headed by N, A or intransitive Vs) and not a full clause (Storto 2010).

(III) “Complement” clauses are marked by the oblique suffix *-ty* as non-obligatory objects of a class of intransitive psychological verbs (Storto & Rocha, to appear) and they may be characterized structurally as either adverbial or relative clauses:

(120) Y-py-so'oot-yn yn [Inácio 'ep opĩ]-ty
 1-assert-see-nfut I tree cut-obl

'I saw that Inácio cut the tree'

- (121) Y-py-so'oot-yn yn [Inácio 'ep opĩ tyka]-ty
1-assert-see-nfut I tree cut impf.mot.-obl
'I saw that Inácio was cutting the tree'

- (122) Y-py-sondyp-yn yn [Inácio 'ep opĩ]-ty
1-assert-know-nfut I tree cut-obl
'I know that Inácio cut the tree'

- (123) Yn Ø-na-aka-t i-sondyp-Ø [Inácio 'ep opĩ]-ty
I 3-decl-cop-nfut part-know-abs.cop.agr tree cut-obl
'I know that Inácio cut the tree'

- (124) Y-py-sondyp-yn yn [Inácio 'ep opĩ pasagngã]-ty
1-assert-know-nfut I Inácio tree cut posterior-obl
'I know that Inácio will cut the tree'

- (125) Y-py-pyting-yn yn [him pisyp Inácio opĩ]-ty
1-assert-want-nfut I game meat cut-obl
'I want that Inácio cuts the meat'

When the OSV word order is possible without the object focus morphology, as in (125) “complement” clauses are analyzed as adverbial clauses, whereas when OSV requires object focus morphology as in (127), they are analyzed as relatives:

- (126) Y-py-so'oot-yn yn [tasoõwã mĩ]-ty
1-assert-see-nfut I man child beat-obl
'I saw the man who beat the child'
'I saw that the man beat the child'

- (127) Y-py-so'oot-yn yn [õwã taso ti-mĩ]-ty
1-assert-see-nfut I child man OFC-beat-obl
'I saw the child whom the man beat'

'I saw that the man beat THE CHILD'

“Complement” clauses, therefore, do not constitute a third type of embedded clause structurally. They can be adverbial clauses or relative clauses.

4.2. Focus in subordinate clauses

One example of non-declarative object focus in a subordinate environment taken from a narrative is given in (130) and (131) below. These are non-finite clauses that seem to function as oblique arguments of the finite sentence (128). We can be sure that these clauses are non-finite because they occur in OSV word order and with the negation suffix *-ki*, which is limited to non-finite clauses and nouns:

(128) Otadnamyn-t yn Ø-naka-m-'y-t yn gop yn
four-obl I 3-decl-caus-take-nfut I(topic) wasp I(topic)
'As for myself, I have taken the wasps four times'

(129) Gop sōw-ōrã, gop miemo, gop miemo sypom-p,
wasp red-advzr wasp wasp two-obl

gop sōw-ōrã sypom-p tzym
wasp red-advzr two-obl as well

'Red wasps, gop miemo, gop miemo twice, red wasps twice too'

(130) [Gop bisōwōrã yn ti-m-'y-ki]-t
wasp I OFC-caus-take-neg-obl
'Me not having taken gop bisōwōrã'

(131) [Gop bikiip yn ti-m-'y-ki]-t
wasp I OFC-caus-take-neg-obl
'Me not having taken Gop bikiip'

(132) Ø-Naka-'a-t kahyt
3-decl-do-nfut like.this
'That's how it was'

We can be sure as well that the noun phrase at the left edge of these subordinate clauses are focused because the meaning of new information is present in the context, where various species of wasps are being listed for the first time.

One question that must be addressed is how can the pivot of a relative clause be marked as focused (with the OFC prefix *ti-*) if these noun phrases seem to be presupposed and definite cross-linguistically? We believe that they are not syntactically definite or indefinite, but bare nouns whose definitude meaning is given by the context. Evidence that Karitiana is a bare noun language was given by Muller, Storto & Coutinho-Silva (2006) and Storto & Thomas (to appear). Our explanation is that they are focused because the head or pivot of a relative is the most "newsworthy" constituent inside the clause.

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